

with the ground-colour of the wet-season and sharply-defined markings, the primaries also with an oblique row of dots, a zigzag bar, or a large patch of chocolate at or near the apex—this form is also often characterized by dense dusky irroration of the under surface. In the transition from the rainy to the dry-season an intermediate form occurs. Variation, in the sense of simple inconstancy of pattern, chiefly affects the width of the borders on the upper surface, and, curiously enough, this inconstancy in some species is dependent upon season, whilst in others it occurs at all seasons. It is this puzzling inconsistency in the variation of the species which has been responsible for many of the synonyms in this genus, as well as for much confusion in the writings of the best intentioned workers respecting the geographical distribution of some of the commoner species.

The Museum series of Old-World *Terias* has, for many years, been the finest in existence; and the recent donation of the Godman and Salvin collection of these butterflies has rendered it so complete that, in combining and rearranging the two series in our cabinets, many new facts have come to light and a tentative revision of the synonymy has become practicable, but only breeding in every locality can finally decide whether or not this reduction of the species of the past goes too far or not far enough: in any case I offer it to Lepidopterists as what I conscientiously believe to be a step in the right direction.

The Museum collection of typical *Terias* at present occupies thirty cabinet drawers, nearly the whole of the forms described from the Old World being represented, and most of them in all their seasonal forms. It must, however, be noted that, as in *Teracolus*, those countries which have practically no wet season nevertheless produce the three phases of a species as coexistent varieties. It would therefore seem that existing variations have been adapted to the seasons, and not produced by them, as has been assumed.

SECTION I.

The most simple section of the genus is characterized by the absence of glandular or scale patches on the front wings of the males, and includes the *T. brigitta*, *nise*, *albula*, *agave*, *messalina*, *deva*, *harina*, *candida*, and *Desjardinsii* groups of the genus: some of these which are only found in the New World I shall not discuss in the present paper.

T. brigitta group.

Characterized by a tolerably regular blackish border to

the costa and outer margin of the primaries above, this border not reaching the external angle in the females; the under surface of the dry-season form often largely suffused with rose-reddish or flesh-colour.

1. *Terias pulchella*.

Xanthidia pulchella, Boisduval, Faun. Madag. p. 20, pl. ii. fig. 7 (1833).

Mauritius and Madagascar.

The dry-season form has the apex of the primaries and the secondaries suffused with rose-reddish on the under surface. The species is represented in the Museum by eighteen examples.

We have in the Museum a single male of a species from Fwambo, Tanganyika, which (excepting in its much more rounded wings) bears a curious resemblance to *T. pulchella*; it is, however, destitute of markings on the under surface. I thought at one time that it might possibly be a very aberrant example of *T. regularis*, but it looks so utterly out of place with that species that I feel convinced it will prove to be a new thing; nevertheless I hesitate to name it until we receive further evidence.

2. *Terias brigitta*.

Papilio brigitta, Cramer, Pap. Exot. iv. pl. cccxxxi. B, C (1782).

Terias zoe, Hopfler, Ber. Verh. Ak. Berl. 1855, p. 640; Peters's Reise, Zool. v. p. 369, pl. xxiii. figs. 10, 11 (1862).

Terias candace, Felder, Reise der Nov., Lep. ii. p. 213 (1865).

Terias caffra, Felder, l. c.

♀. *Terias seruli*, Westwood in Oates's Matabele-land, p. 342 (1881).

Ranges from the Cape of Good Hope northwards to Abyssinia and westwards from Angola to Sierra Leone.

The wet form is *T. zoe*=*caffra*, the intermediate form is *T. candace*=*seruli*, and the dry form is typical *T. brigitta*: males both of the intermediate and dry forms seem to be very rare; it therefore seems possible that the females may live until the commencement of the wet season, or possibly they may take little part in the reproduction of the species. Among our ninety-two examples of *T. brigitta* only two males belong to the intermediate, and one to the dry form.

3. *Terias libythea*.

Papilio libythea, Fabricius, Ent. Syst. Suppl. p. 427 (1798).

Terias drona, Horsfield, Cat. Lep. E. I. C. p. 137, pl. i. fig. 13 (1829).

Terias lerna, Felder, Sitz. Ak. Wiss., math.-nat. Cl. xl. p. 448 (1860).

Terias senna, Felder, Reise der Nov., Lep. ii. p. 212 (1865).

Terias rubella, Wallace, Trans. Ent. Soc. ser. 3, vol. iv. p. 323 (1867).

Terias hainana, Moore, P. Z. S. 1878, p. 700.

The range of this species appears to extend from the Himalayas eastwards to Southern China and Hainan, southwards to Ceylon, and thence south-eastwards to Timor; we also have one example from Amboina.

The wet form is represented by *T. senna*=*lerna*, the intermediate form by *T. drona*, and the dry form is typical *T. libythea*=*rubella*=*hainana*: the latter has the fringes rosy and the border of the secondaries reduced to triangular spots; in the intermediate form these spots are confluent in the male, forming a dentated border*.

4. *Terias zoraide*.

Terias zoraide, Felder, Reise der Nov., Lep. ii. p. 213 (1865).

Terias australis, Wallace, Trans. Ent. Soc. ser. 3, vol. iv. p. 321 (1867).

Terias sinta, Wallace, t. c. p. 322.

Terias immaculata, Miskin, P. R. Soc. Queensl. vi. p. 253 (1889).

Ranges from Bourou southwards to Australia.

T. australis=*zoraide* is the wet form; *T. sinta*=*immaculata* the dry.

T. euterpe and *T. neda* of the New World appear to be best placed in this group, in spite of the somewhat different character of their under-surface markings.

T. harina group.

The wet-season forms differ from the dry in the much greater width of the outer blackish border to the primaries; between the two seasons this border is intermediate in width.

5. *Terias harina*.

Terias harina, Horsfield, Cat. Lep. E. I. C. p. 137 (1829); Hübner, Zutr. exot. Schmett. figs. 979, 980 (1837).

Ranges from N.E. India through Burma, the Mergui Archipelago and Andamans, Malacca, Java, and Borneo, eastwards to the Celebes.

The name *T. formosa* was probably first given to Hübner's figures of *T. harina* by the late Adam White, and thus appeared in a list of the species of this genus which I published (P. Z. S. 1871, p. 540) at a time when I had no perfect copy of Hübner's work for reference. In that list, oddly enough, I transposed the sexes—the type of *T. harina* being a female, that of Hübner's illustrations a male.

In the Philippines a fairly distinct race occurs, of which

* *T. hainana* has a slightly narrower border to the primaries than *T. libythea*.

I have seen no extreme dry type: the wet form is larger than in *T. harina*, the blackish outer border extending to the secondaries even in the males, where it runs from the apex to beyond the third median branch, and in the females sometimes to beyond the first branch; the costal margin in this form is also much less arched than in *T. harina*: the intermediate form is normal.

6. *Terias butyrosa*.

Terias butyrosa, Butler, Ann. & Mag. Nat. Hist. ser. 4, vol. xv. p. 396 (1875).

Aru Islands.

I have only seen the dry-season form of this *Terias* and therefore have not sufficient evidence on which to conclude that it is a race of *T. harina*; it differs from the dry-season form of that species in the more uniform width and continuous character of the blackish border to the primaries.

T. candida group.

The species of this group do not appear to exhibit any appreciable seasonal characters; they also differ from the *T. harina* group in the fact that the females are not very variable in the same species: white is the characteristic colouring of the upper surface in all the species excepting those of the Solomon group, which have yellow females.

7. *Terias virgo*.

Terias virgo, Wallace, Trans. Ent. Soc. ser. 3, vol. iv. p. 328 (1867).

Aru Islands.

8. *Terias puella*.

Xanthidia puella, Boisdual, Voy. de l'Astr., Lép. p. 60, pl. ii. fig. 8 (1832).

Probably throughout the Halmaheira group; we have it from Waigiou, Batchian, Ternate, and Morty.

9. *Terias papuana*, sp. n.

Differs from the two preceding species in the more regular and slightly more concave inner edging of the black outer border to the wings, which runs farther back on the costa of the primaries; in the majority of the males this border is wider than in either *T. virgo* or *T. puella*, and in the females it is invariably wider than in *T. virgo*: the expanse of wings varies considerably, 39 to 54 millimetres.

From Mysol through New Guinea to Cape York.

10. *Terias xanthomelæna*.

Terias xanthomelæna, Godman & Salvin, P. Z. S. 1879, p. 159.

New Ireland and Duke of York Island.

This species may chiefly be distinguished from the following by the width and opacity of the basal and abdominal brown suffusion, and in the generally more concave inner edge to the outer border of the primaries and the narrower border of the secondaries.

11. *Terias candida*.

Papilio candida, Cramer, Pap. Exot. iv. pl. cccxxxi. A (1782).

Amboyna and Ceram.

12. *Terias Woodfordi*, sp. n.

♂. Gamboge-yellow with black-brown borders, with tolerably regularly concave inner margins, that of the primaries considerably wider on the costa than in any other species of the group, though at the external angle no wider than in *T. candida*.

♀. Similar to the male, but lemon-yellow, more or less irrorated at the base of the wings with dusky scales. Expanse of wings varying from 34 to 53 millim.

Guadalcanar, Maleita, and Florida Islands (*Woodford*).

The whole of our sixteen examples of this species were received from Messrs. Godman and Salvin.

13. *Terias salomonis*, sp. n.

Differs in both sexes from the preceding species in the narrower external borders of both sexes. Expanse of wings 45 to 54 millim.

Fauro and Alu Islands (*Woodford*).

The eight specimens of this species in the collection were received from Messrs. Godman and Salvin.

T. Desjardinsii group.

The wet- and dry-season forms differ considerably: in the latter the dark border to the secondaries is reduced to a series of dots terminating the nervures; on the under surface also the apex of the primaries is often suffused with rose-colour, and two or three deep brown markings appear somewhat as in the *T. hecabe* section of the genus.

14. *Terias regularis*.

Terias regularis, Butler, Ann. & Mag. Nat. Hist. ser. 4, vol. xviii. p. 486 (1876).

Terias Oberthürri, Mabille, Bull. Soc. Zool. France, ii. p. 223 (1877).

From Abyssinia southwards to Nyasa, and on the west coast from the Congo northwards to the Niger.

This species has been confounded with the S.-African representative of *T. Desjardinsii* by Mr. Marshall; it is, however, widely distinct, the female especially differing in the typical (wet-season) form in its broad hind-wing border; both sexes also differ in their less angular wings, with far more regular arched inner edging to the border of the primaries. In the dry-season form the border of the secondaries is replaced by dots, but the markings on the under surface are as indistinct as in the wet-season form, the apex of the primaries being very delicately tinted with rose-pink.

15. *Terias Marshalli*, sp. n.

Terias Desjardinsii, Trimen & Marshall (not Boisduval).

Wings much more angular than in the preceding species, the inner edge of the outer border of primaries irregularly sinuated, most prominently on the upper radial and two median interspaces; the outer border of the secondaries usually narrower, always distinctly so in the female and most frequently reduced to a marginal series of spots in that sex; markings below better defined, but especially in the intermediate and dry-season forms, which show an additional irregular subapical brown dash on all the wings and a rusty flesh-coloured border to the primaries. On the upper surface the three tolerably well-defined seasonal types differ chiefly in the width of the dark outer border to the wings, that of the secondaries being reduced in the dry-season to a narrow dentated line in the male and a series of dots in the female. Expanse of wings 35 to 45 millim.

Ranges from the Albert Nyanza southwards to Kaffraria, and on the West Coast from Angola northwards to the Niger. (Fifty examples.)

16. *Terias Desjardinsii*.

♂. *Xanthidia Desjardinsii*, Boisduval, Faun. Madag. p. 22, pl. ii. fig. 6 (1833).

♀. *Terias aliena*, Butler, Ann. & Mag. Nat. Hist. ser. 5, vol. v. p. 337 (1880).

Madagascar.

I believe that this species only has a dry-season form—

the male approaching nearest to the dry form of *T. Marshalli* on the upper surface, but without the rusty or rose-coloured border on the under surface: the female has a faint rosy tinting to the apex above and a more or less dusky ill-defined apical border; on the under surface this sex has both subapical dashes and the apex of the primaries rosy ochreous. The black-tipped white female figured by Mabille in Grandidier's 'Madagascar' does not belong to this section of the genus, but is a variation of *T. hapale*.

17. *Terias punctinotata*.

♀. *Terias punctinotata*, Butler, P. Z. S. 1895, p. 633, pl. xxxv. figs. 8, 9.

The male is bright lemon-yellow, with a black outer border to the primaries, regularly arched internally as in *T. regularis*; it is different from the latter in outline, the costal margin of the primaries being longer and the apex more acute; but for this fact and its much clearer (less deep gamboge) colour I should have concluded that it might be the dry-season form of *T. regularis*, that previously noted being the intermediate form.

18. *Terias mandarinula*.

Terias mandarinula, Holland, Ent. xxv. (Suppl.) p. 91 (1892); Proc. U.S. Nat. Mus. 1895, p. 242, pl. vii. fig. 5.

E. Africa.

I have not seen this species, but can only suppose that it must be allied to the preceding.

SECTION II.

The males characterized by the presence of a patch of thickened scales between the median and submedian veins towards the base of the primaries below and a corresponding subcostal patch on upper surface of secondaries.

This section contains the group to which *T. venata*, *herla*, and *Jageri* belong, also *T. smilax* and one unnamed species from the New World.

T. herla group.

Characterized by more or less acutely-pointed primaries, the dry forms usually very ruddy below.

19. *Terias betheseba*.

Terias betheseba, O. Janson, Cist. Ent. ii. p. 272 (1878).

Terias hainana, Moore, P. Z. S. 1878, p. 700.

Yokohama and Hainan.

Our seven examples of this species all belong to the wet-season form, nor have I seen a dry form of this insect.

20. *Terias sana*.

Terias sana, Butler, P. Z. S. 1877, p. 470.

Terias hespera, Butler, Ann. & Mag. Nat. Hist. ser. 5, vol. xvii. p. 214 (1886).

New Guinea to Northern Australia.

T. sana was described upon two small wet-season examples from New Guinea; *T. hespera* upon the dry form from N.E. Australia. The species is represented in the Museum by eleven examples.

21. *Terias venata*.

Terias venata, Moore, Cat. Lep. E. I. C. i. p. 65, pl. 2 a. fig. 2 (1857).

Terias santana, Felder, Reise der Nov., Lep. ii. p. 211 (1865).

Terias rama, Moore, P. Z. S. 1872, p. 566; Lep. Ceylon, i. p. 121, pl. xlv. figs. 5, 5 a (1880-81).

Terias pallitana, Moore, Ann. & Mag. Nat. Hist. ser. 4, vol. xx. p. 48 (1877).

Ranges from the Himalayas southward to Ceylon and probably eastwards through North China, for we have it from Chusan Island and from the Philippines.

The seasonal (?) forms differ less than usual: *T. rama* is probably the best-marked wet type, *T. santana* intermediate, and *T. venata* (of which *T. pallitana* is the female) the dry; but, on the other hand, it is possible that, as seems to be the case in the closely allied *T. betheseba*, no differing dry form may exist, and the slight discrepancies in the pattern of the upper surface or the definition of the markings on the under surface may be partly local and have a subspecific value. The fact that we have the extremes from the Anamully Hills proves that they are not permanently separated as distinct species.

Two males in the Museum from China differ in having the female pattern on the upper surface of the primaries as in *T. lata*.

22. *Terias herla*.

Pieris herla, McLeay, King's Surv. Austr. ii. p. 460 (1827).

Terias lineata, Miskin, P. R. Soc. Queensl. vi. p. 251 (1889).

Northern Australia.

T. lineata is the dry-season form of the species.

23. *Terias læta*.

Terias læta, Boisduval, Sp. Gén. Lép. i. p. 674 (1836).

Terias Jægeri, Ménétriés, Cat. Mus. Petrop., Lép. i. p. 84, pl. ii. fig. 1 (1855).

Terias vagans, Wallace, P. Z. S. 1866, p. 357.

India and Burma.

Differs from *T. herla* chiefly in the more acute apex to the primaries. The wet-season form of the species is *T. vagans*, which the late Capt. Watson says "is possibly wrongly identified in the British Museum"; but, owing to the fact (overlooked by him) that we possess Wallace's type, it was not "possibly wrongly identified." The intermediate form is *T. Jægeri* and the dry form *T. læta*.

24. *Terias subfervens*.

Terias subfervens, Butler, Ann. & Mag. Nat. Hist. ser. 5, vol. xi. p. 278 (1883).

Japan, Southern Korea, and Eastern China.

I based my description upon the extreme dry-season form from Southern Korea, having incorrectly identified the wet and intermediate forms from Japan as *T. Jægeri*. The species may readily be distinguished in all its forms from *T. læta* by the much more prominent and acute apex to the primaries and the distinctly narrower and far more regular black border on the upper surface of these wings.

T. smilax group.

Characterized by the rounded apex to the primaries and far more irregular abbreviated external border to these wings. Donovan's figure is extremely slovenly and does not show this irregularity; indeed it far more nearly resembles a little species which we have from the Bahamas; nevertheless it has been generally admitted that it is intended to represent the intermediate form of the Australian species.

25. *Terias smilax*.

Papilio smilax, Donovan, Ins. New Holl. pl. xx. fig. 3 (1805).

Terias ingana, Wallace, Trans. Ent. Soc. 1867, p. 322; Butler, Cruise of the Curaçoa, p. 470, pl. xlix. fig. 3 (1873).

Terias parvula, Herrich-Schäffer, Stett. ent. Zeit. 1869, p. 78.

Terias varius, Miskin, Proc. Soc. Queensl. vi. p. 259 (1889).

Terias casta, Lucas, op. cit. vol. viii. p. 68 (1894).

Eastern Australia and Baudin Island.

T. casta=*ingana* is the wet-season form, *T. varius* apparently = typical *T. smilax* intermediate, and *T. parvula* the dry form.

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SECTION III.

The basal portion of the median nervure of the primaries in the males up to the emission of the first branch edged with thickened scales having an opaque appearance when held to the light.

This section is the most perplexing in the genus and includes all the allies of *T. hecabe* and *T. rahel*.

26. *Terias floricola*.

Xanthidia floricola, Boisduval, Faun. Madag. p. 22, pl. ii. fig. 6 (1833).

Terias ceres, ♂, Butler, Ann. & Mag. Nat. Hist. ser. 5, vol. xvii. p. 218 (1886).

Mauritius and Madagascar.

T. floricola is the wet-season form and *T. ceres* the dry; the female referred by me to *T. ceres* belongs to the following very closely related form, which may perhaps be only a race of the same species, possibly only a variety.

27. *Terias hapale*.

♀ ♀. *Terias hapale*, Mabille, Le Nat. ii. p. 99 (1882); Grand. Madag. pl. xxxii. figs. 6, 7.

♂ ♀. *Terias Boisduvaliana*, Mabille, *l. c.* p. 253, pl. xxxii. figs. 4, 4 a, 5.

♂ ♀. *Terias aethiopica*, Trimen, S. Afr. Butt. iii. p. 21 (1889).

Madagascar, Africa generally, Arabia.

T. hapale = *Boisduvaliana* is the wet-season form and *T. aethiopica* = *ceres* ♀ the dry-season form. We have forty-seven examples of this butterfly, and (apart from seasonal variation) they seem to be wonderfully constant, the females only varying in the length of the outer border of the primaries, which, in the variety referred to *T. Desjardinsii* by M. Mabille, is very limited.

28. *Terias anjuana*.

Terias anjuana, Butler, Ann. & Mag. Nat. Hist. ser. 5, vol. xv. p. 189 (1879).

Terias decipiens, Butler, *l. c.*

Island of Johanna.

T. anjuana is the wet-season form, *T. decipiens* is intermediate, and a small lemon-yellow male which I identified as the W.-African *T. brenda* may possibly be an aberrant dry-season form, but shows none of the characteristic markings on the under surface.

29. *Terias Bewsheri*.

Terias Bewsheri, Butler, Ann. & Mag. Nat. Hist. ser. 5, vol. xv. p. 190 (1879).

Terias chalconiata, Butler, l. c.

Terias dentilimbata, Butler, l. c.

Island of Johanna.

T. Bewsheri is the wet form and *T. chalconiata* and var. *dentilimbata* the dry.

There can be little doubt that this is merely an insular race of *T. senegalensis*, less subject to variation than the continental type.

30. *Terias leonis*.

Terias leonis, Butler, Ann. & Mag. Nat. Hist. ser. 5, vol. xvii. p. 222, pl. v. fig. 6 (1886).

West Africa from Sierra Leone to the Gaboon.

A small species, perhaps doubtfully distinct from *T. senegalensis*, but apparently having no dry-season form; the typical (intermediate) form is more characteristically dissimilar from *T. senegalensis* than the wet form.

There are twenty-eight examples in the Museum series.

31. *Terias senegalensis*.

Terias senegalensis, Boisduval, Sp. Gén. Léop. i. p. 672 (1836).

Terias solifera, Butler, Ann. & Mag. Nat. Hist. ser. 4, vol. xv. p. 396 (1875).

Terias bisinuata, Butler, Ann. & Mag. Nat. Hist. ser. 4, vol. xviii. p. 485 (1876).

Terias orientis, Butler, P. Z. S. 1888, p. 71.

Terias Butleri, Trimen, S. Afr. Butt. iii. p. 23 (1880).

Africa generally, but apparently rare in the south.

T. senegalensis = *solifera* is the extreme wet form; typical *T. senegalensis* having the markings below very indistinct, whereas in *T. solifera* they are well defined: this difference, however, is common as a variation in the genus.

T. orientis = *Butleri* is a less heavily bordered intermediate form, and *T. bisinuata* the dry form, which, however, we have hitherto only received from Eastern Africa.

32. *Terias brenda*.

Terias brenda, Doubleday, Gen. Diurn. Lep. pl. ix. fig. 6 (1847).

Sierra Leone to the Gaboon on the west and the Albert Nyanza to Tanganyika on the east.

This species resembles the preceding in pattern in all its forms excepting that the secondaries are less frequently

bordered with black above, being usually dotted at the ends of the nervures. It differs chiefly in colouring, the wings being bright lemon-yellow above instead of gamboge. The largest examples of *T. brenda* show a somewhat greater expanse of wings than the largest examples of *T. senegalensis*, but size alone is of little consequence.

33. *Terias anemone*.

Terias anemone, Felder, Wien. ent. Monatschr. vi. p. 23 (1862).

Terias mandarina, De Lorza, Lep. Jap. p. 18 (1869).

Terias Mariesii, Butler, Trans. Ent. Soc. 1880, pl. vii. figs. 1-6.

Terias hybrida, Butl. l. c. figs. 7-11.

Terias connexiva, Butl. l. c. figs. 12-15.

Japan and Chusan Island, round the south-eastern coast of China from Shanghai to Hong-Kong.

T. Mariesii is the wet-season form, *T. anemone*, *hybrida*, and *connexiva* intergrades, and *T. mandarina* the dry-season form.

The transitions from wet to dry affect both surfaces simultaneously in this species, and thus at once distinguish it from *T. hecabe* and *T. suava*, in which the upper surface varies enormously at all seasons. The wet form (*T. Mariesii*) differs from the parallel variety of the wet form in *T. suava* in the more abrupt costal termination of the apical patch on the upper surface. Our series of this species is represented by 127 selected examples.

34. *Terias Hobsoni*.

Terias Hobsoni, Butler, P. Z. S. 1880, p. 668.

S.E. Corea, Japan, the Chusan Archipelago, Eastern China from Hang-Chow southwards to Foo-Chow and Formosa.

It is possible that this may be a variation of the preceding species, in which the outer border is equally well marked on the primaries, but wanting on the secondaries: the dry form is unknown to me.

35. *Terias unduligera*.

Terias unduligera, Butler, P. Z. S. 1880, p. 668.

Foo-Chow and N. Formosa.

The dry form is quite unlike that of *T. anemone*, approaching closely to that of *T. hecabe*. It is possible that this may be inseparable as a species from *T. hecabe*, from which it differs much as *T. nicobariensis* does from *T. suava*; it does

not, however, quite correspond with *T. hecabe* in pattern in any of its seasonal forms, and appears to be locally constant.

Cramer's *Pap. hecabe* (Pap. Ex. vol. ii. pl. cxxiv. figs. B, C) probably represents the intermediate form of *T. unduligera*.

36. *Terias hecabe*.

Papilio hecabe, Linnæus, Mus. Lud. Ulr. p. 249 (1764).

Terias blanda, Boisduval, Sp. Gén. Lép. i. p. 672 (1836).

Terias æsiope, Ménétriés, Cat. Mus. Petrop., Lép. i. p. 85, pl. ii. fig. 3 (1855).

Terias subdecorata, Moore, P. Z. S. 1878, p. 699.

Terias arcuata, Moore, t. c. p. 700.

South China from Hong-Kong to Tonkin, including the island of Hainan.

In this species the wet-season form appears to vary very little, but the intermediate and dry forms exhibit considerable variation in the width of the outer border of the primaries. *T. æsiope* is a dry form corresponding with the wet-season form (*T. hecabe*); in *T. subdecorata* the only difference of importance is in the much less angular upper inner margin to the apical portion of the outer border; in *T. blanda* the inner edge of the outer border is almost or often quite regularly arched, and *T. arcuata* appears to be the same thing with an intermediate character of under surface. The following, which may prove to be a further development of the dry-season form of *T. hecabe*, was also described from Hainan; but the Museum possesses only a pair, presumably of this species, from the Loo-choo and Madjico-sima Islands; therefore, for the present, I keep it separate.

37. *Terias attenuata*.

Terias attenuata, Moore, P. Z. S. 1878, p. 700.

Hainan; also? Loo-choo and Madjico-sima groups.

It is of course possible that our examples, in spite of their resemblance to Dr. Moore's insect, may prove to be the dry form of *T. Hobsoni*; their habitat seems to render this more likely than that they should be a variation of the Southern Chinese species.

38. *Terias suava*.

Terias suava, Boisduval, Sp. Gén. Lép. i. p. 670 (1836).

Terias hecabeoides, Ménétriés, Cat. Mus. Petrop., Lép. i. p. 85, pl. ii. fig. 2 (1855).

Terias fimbriata, Wallace, Trans. Ent. Soc. ser. 3, vol. iv. p. 323 (1867).

Terias simulata, Moore, Lep. Ceylon, i. p. 119, pl. xlv. figs. 2, 2 a, 2 b (1881).

Terias excavata, Moore, P. Z. S. 1882, p. 252.

Terias irregularis, Moore, t. c. pl. xii. fig. 3.

Terias apicalis, Moore, t. c. p. 253, pl. xii. fig. 2.

Terias asphodelus, Butler, P. Z. S. 1883, p. 151, pl. xxiv. fig. 13.

Terias narcissus, Butler, l. c.

Terias Swinhoei, Butler, Ann. & Mag. Nat. Hist. ser. 5, vol. xvii. p. 216 (1886).

Terias simplex, Butler, t. c. p. 217, pl. v. fig. 2.

Terias contubernalis, Moore, Journ. Linn. Soc., Zool. xxi. p. 46 (1886).

Terias patruelis, Moore, t. c. pl. iv. fig. 5.

Terias fraterna, Moore, t. c. pl. iv. fig. 6.

Terias Andersonii, Moore, t. c. p. 47, pl. iv. fig. 8.

India and Ceylon, Burma, and southward to Malacca, including the Mergui Archipelago.

This species well bears out Darwin's statement that common and widely distributed species vary most. *T. suava* (commonly confounded with the broader-winged and far less variable *T. hecabe* of S. China) exhibits more inconstancy than any other species of *Terias*, and consequently has received numerous distinctive names. As every gradation of upper-surface pattern, from the typical broad-bordered *T. suava* to the narrow-bordered *T. narcissus*, is represented at all seasons, it would seem to a superficial observer that many species were represented by the forms of this butterfly; when, however, it is found that these forms are not limited to locality and comprise a perfect transitional series, it becomes evident that they represent one extremely variable species.

In order to facilitate their identification I shall consider these intergrades as separate varieties, beginning with the most broadly bordered typical form and ending with those in which the border is reduced to its narrowest limit.

Var. 1.

T. suava=*hecabeoides* is the wet-season form, the intermediate form is unnamed; *T. simulata* is the dry-season form, from which *T. contubernalis* is practically inseparable.

Var. 2.

T. merguiana is the wet-season form, the intermediate form is unnamed; *T. excavata* is the dry-season form, from which *T. Andersonii* is inseparable.

Var. 3.

The wet and intermediate forms are both unnamed; *T. fraterna* is the dry form.

Var. 4.

The wet and intermediate forms are both unnamed; *T. purreea*=*patruelis* is the dry form.

Var. 5.

The wet and intermediate forms are both unnamed; *T. Swinhoei* is the dry form.

Var. 6.

The wet form is unnamed, the intermediate form is unknown to me; *T. asphodelus* and *irregularis* are small and large types of the dry form.

Var. 7.

The wet form is unnamed; *T. fimbriata* is the intermediate form, and *T. narcissus* the dry form.

Var. 8.

The wet and intermediate forms are unknown; *T. simplex* is the dry form.

Var. 9.

The wet and intermediate forms are unknown; *T. apicalis* is the dry form.

39. *Terias nicobariensis*.

Terias nicobariensis, Felder, Verh. zool.-bot. Ges. Wien, xii. p. 480 (1862).

Terias phanospila, Felder, Reise der Nov., Lep. ii. p. 209 (1865).

Andamans, Nicobars, Java, Sumatra, Flores (coll. Hewitson), Borneo, and the Philippines. We have a female apparently referable to the intermediate form of this species, but said to have been taken in Ceylon.

To my mind *T. nicobariensis* is more nearly related to *T. silhetana* than to *T. suava* (with which, under the incorrect name of *T. hecabe*, it has been associated by Indian workers).

T. phanospila was based upon old discoloured males from Java; we have exactly similar specimens from Horsfield's collection. This is the dry-season form of the species.

40. *Terias silhetana*.

Terias silhetana, Wallace, Trans. Ent. Soc. ser. 3, vol. iv. p. 324 (1867).

Terias citrina, Moore (not Poey), Lep. Ceylon, i. p. 119, pl. xlv. figs. 4, 4 a (1881).

Terias rotundalis, Moore, t. c. p. 120, pl. xlvi. figs. 1, 1 a, b (1881).

Terias uniformis, Moore, l. c. figs. 2, 2 a, b (1881).

Terias vallivolans, Butler, Ann. & Mag. Nat. Hist. ser. 5, vol. xi. p. 420 (1883).

Terias heliophila, Butler, Ann. & Mag. Nat. Hist. ser. 5, vol. xvi. p. 338, pl. viii. fig. 2 (1885).

Terias Templetoni, Butler, Ann. & Mag. Nat. Hist. ser. 5, vol. xvii. p. 218 (1886).

Terias simulatrix, Semper, Reisen Arch. Philipp. ii. vol. v. pl. xli. figs. 7-9 (1891).

Terias tecmessa, De Nicéville, Journ. Asiat. Soc. Bengal, lxiv. p. 498 (1896).

Burma, Pegu, N.E., Central, and Southern India, Ceylon, Andamans, N.E. Sumatra, Philippines*.

The character by which the late Capt. Watson proposed to distinguish *T. silhetana* from other species of the *T. hecabe* group is that it has an extra black dot near the base of the discoidal cell on the underside of the primaries. Unfortunately this character is not always present, though usually so in the narrow-bordered forms of the species.

T. silhetana separates fairly easily into two types, the first with a broad border to the secondaries at all seasons, the second with a narrower border in the wet-season, which almost or quite disappears in the dry-season.

Broad-bordered type.

The wet-season form is unnamed; the dry-season form is *T. citrina*=*T. simulatrix*=*T. tecmessa* (the latter being the drier and commoner variation).

Narrow-bordered type.

The wet-season form is *T. rotundalis*=*vallivolans*=*Templetoni*; the intermediate form is *T. heliophila*; the dry-season form is *T. silhetana*=*T. uniformis*.

41. *Terias Moorei*.

Terias Moorei, Butler, Ann. & Mag. Nat. Hist. ser. 5, vol. xvii. p. 216, pl. v. fig. 1 (1886).

Camorta.

The late Capt. Watson regarded this as an extreme variety of *T. silhetana* (to which, as my figure shows, it bears not the faintest resemblance), solely on the ground that the black dot, which he believed to be confined to *T. silhetana*, occurs in our two examples, although not in the same part of the cell. As a fact, the cell-markings on the under surface of the species of *Terias* are eminently variable both in number and position, sometimes on opposite wings of the same individual.

* We have a female said to have been obtained at Afghanistan over fifty years ago; but this is probably an error.

42. *Terias kana*.

Terias kana, Moore, Journ. Linn. Soc., Zool. xxi. p. 48, pl. iv. fig. 9 (1886).

Terias toba, De Nicéville, Journ. Asiat. Soc. Bengal, lxiv. p. 496 (1896).

Mergui Archipelago and Sumatra.

An intermediate-season form (of which the wet and dry forms are unknown to me). Capt. Watson thought that *T. kana* might be the wet-season form of *T. sari*; but we have what I believe to be the wet form of (the race?) *T. sodalis* from Ceylon, and it agrees with the latter exactly in the pattern of the upper surface, whereas *T. kana* is more like a small broad-bordered *T. suava*.

43. *Terias curiosus*.

Terias curiosus, Swinhoe, P. Z. S. 1884, p. 508, pl. xlvii. fig. 3.

Karachi.

The late Capt. Watson regarded this as an aberration of "*T. hecabe*," but to my mind it has far more the character of *T. sodalis*; it may be distinct from either, and (in the absence of evidence) I therefore leave it.

44. *Terias sari*.

Terias sari, Horsfield, Cat. Lep. E. I. C. p. 136 (1829).

Terias sodalis, Moore, Journ. Linn. Soc., Zool. xxi. p. 45 (1886).

Ceylon, Nilghiris, Burma, Mergui Archipelago, Malacca, Sumatra, Java, Borneo, Sulu Archipelago, Palawan.

The examples from the mainland and Mergui, as well as the wet-season examples from Ceylon, have usually a narrower border to the secondaries, though one example from Malacca has this border fairly broad; these would represent *T. sodalis*. The forms from Sumatra northwards to Palawan have this border somewhat broader and are typical *T. sari*. Both names were given to the dry-season phase.

45. *Terias sarilata*.

Terias sari, var. *sarilata*, Semper, Reisen Philipp. ii. v. pl. xii. figs. 10-12 (1891).

Davao, Philippines.

Only the dry form is known to me.

Var. ? *mindorana*.

Two females. The outer borders of the wings above occupying from one third to two fifths of the wing-surface;

that of the primaries acutely angulated below costa, the bisinuation on the median interspaces more transverse and with diffused outer edge; a blackish-brown streak continuous with the border running inwards to a third of the distance from the base along the inner margin; the chocolate apical patch on the under surface narrower than in females of typical *T. sarilata*.

Mindoro. From the Godman and Salvin collection.

If males from Mindoro exhibit similar differences, this may be regarded as a distinct species; but our two females are not quite alike (as indicated in the above description). Both belong to the dry-season phase.

46. *Terias semifusca*.

Terias semifusca, Butler, Ann. & Mag. Nat. Hist. ser. 5, vol. xvii. p. 222, pl. v. fig. 8 (1886).

Sumatra. Type coll. Hewitson.

Belongs to the intermediate seasonal phase.

47. *Terias bidens*.

Terias bidens, Butler, Ann. & Mag. Nat. Hist. ser. 5, vol. xvii. p. 222, pl. v. fig. 7 (1886).

Sumatra. Type coll. Hewitson.

Is also an intermediate form.

48. *Terias latilimbata*.

Terias latilimbata, Butler, Ann. & Mag. Nat. Hist. ser. 5, vol. xvii. p. 221, pl. v. fig. 5 (1886).

Sumatra. Type coll. Hewitson.

A wet-season form.

49. *Terias latimargo*.

Terias latimargo, Hopffer, Stett. ent. Zeit. 1874, p. 25.

Terias anguligera, Butler, Ann. & Mag. Nat. Hist. ser. 5, vol. xvii. p. 224, pl. v. fig. 10 (1886).

Celebes and Flores.

We have the wet-season form in the Museum series and the wet and intermediate forms in the Hewitson collection.

50. *Terias diversa*.

Terias diversa, Wallace, Trans. Ent. Soc. ser. 3, vol. iv. p. 324 (1867).

Philippines.

This appears to be the species figured by Semper (figs. 15-17) as *T. hecabe*; his figs. 13 and 14 do not seem to me to

be distinct from his *T. simulatrix*, differing markedly from all the seasonal forms of *T. diversa*.

51. *Terias sulphurata*.

Terias sulphurata, Butler, P. Z. S. 1875, p. 617.

Terias variata, Butler, *l. c.*

Terias hebridina, Butler, *t. c.* pl. lxvii. fig. 8.

Terias inanata, Butler, *l. c.*

Terias pumilaris, Butler, *t. c.* pl. lxvii. fig. 7.

Terias sinapina, Butler, Ann. & Mag. Nat. Hist. ser. 4, vol. xx. p. 355 (1877).

Terias lifuana, Butler, *l. c.*

Terias aprica, Butler, Ann. & Mag. Nat. Hist. ser. 5, vol. xi. p. 420 (1883).

Terias maroensis, Butler, P. Z. S. 1883, p. 368, pl. xxviii. fig. 2.

Terias laratensis, Butler, *t. c.* p. 369, pl. xxviii. fig. 3.

Terias photophila, Butler, Ann. & Mag. Nat. Hist. ser. 5, vol. xiii. p. 196 (1884).

Terias phæbus, Butler, Ann. & Mag. Nat. Hist. ser. 5, vol. xvii. p. 221, pl. v. fig. 4 (1886).

Ranges from Northern Australia northwards to Timor Laut, Aru, and New Guinea, and thence eastwards to New Ireland, appearing just to touch the Solomons; more to the south it ranges eastwards to the Loyalty, New Hebrides, and Fiji Islands.

This species exhibits a more restricted variability than *T. suava*, which it doubtless replaces in Australasia; the mode of variation is, however, similar. Regarded as a whole it is a smaller type, never so heavily bordered or suffused with blackish as typical *T. suava* nor so narrowly bordered as *T. apicalis*.

The varieties with their seasonal forms are as follows:—

Var. 1.

The wet-season form is *T. photophila*, with the outer border slightly narrower in *T. hebridina*, the upper angle of the sinus rounded off and the border of secondaries very narrow or reduced to dots in *T. inanata* and *aprica* (the latter is larger than *T. inanata* and has the margin of secondaries dotted). The intermediate form of this variety is unnamed. The dry-season form is *T. maroensis*=*phæbus*, of which *T. sulphurata* and *variata* are narrower bordered examples, the latter small and with dotted margin to the secondaries.

Var. 2.

The outer border of primaries broad at apex, but narrow at external angle; the seasonal forms are unnamed.

Var. 3.

The outer border of primaries much narrower throughout. The wet-season form is *T. pumilaris* (starved) and *T. sinapina* (full-sized); intergrades between the two extremes are in the Museum series. The intermediate form is *T. lifuana* = *T. laratensis* (the differences very slight) and the dry form is unnamed.

52. *Terias brevicostalis*, sp. n.

Readily distinguishable from all species of this group by the short costal margin to the primaries and the more rounded outer margin; the apical portion of the external border is consequently narrowed, just as though its outer edge had been trimmed off; the subapical angle of this border is more obtuse than usual, the secondaries are subangulated at the end of the second median branch; the outer border of the secondaries is well-defined, regularly sinuated internally, but varies somewhat in width and length; the general colour of the male above is saffron-yellow and that of the female citron-yellow; the markings below are normal, but not very strongly defined in the wet and intermediate forms; the dry form is unknown to me.

Expanse of wings 41–47 millim.

Semão Island, Timor (coll. Hewitson), Wetter, (probably Bourou), Batchian, Ternate, and Gilolo.

The general aspect of the males is that of the *T. Desjardinsii* group rather than of the *T. hecabe* group.

53. *Terias biformis*.

♂ ♀. *Terias biformis*, Butler, Ann. & Mag. Nat. Hist. ser. 5, vol. xiii. p. 196 (1884).

♀. *Terias lacteola*, Distant, Rhop. Mal. p. 466, fig. 129 (1886).

♀. *Terias ada*, Distant, Ann. & Mag. Nat. Hist. ser. 5, vol. xix. p. 271 (1887).

Ranges from Nias through Borneo eastwards to Ternate and Batchian, extending south to Amboyna and Ceram, and probably crossing New Guinea, to reappear in the Louisiade and Solomon groups.

The males of this *Terias* seem to run very close to those of *T. sulphurata*, of which species I should be inclined to regard it as a variety but for the white or creamy colouring of the females. In the Solomon group this type of female seems to be abundant, whereas the yellow female of *T. sulphurata* seems to be extremely rare; from Amboyna again I have only seen white females. In the Solomon Islands the females

would seem to be most prevalent between the wet and dry seasons, nor have I seen a single dry-season male.

T. biformis was based upon a male with dry-season upper surface and a typical wet-season female; the former has usually a very narrow outer border, and sometimes the base and edge of the inner margin are irrorated with dusky scales, so as to approach the least pronounced forms of the *T. rahel* group.

T. lacteola and *ada* were both based upon females, the first white, the second creamy or with a faint tint of sulphur; the outline of the border of the primaries and the dusky irroration of the upper surface are characters which vary much in this species. Our series of *T. biformis* is now represented by seventy-one examples.

The names *T. biformis*, *multifrons*, and *multiformis*, proposed by the late Mr. H. Pryer for *T. subservens* and *T. mandarina*, were given in defiance of the law of priority, and, but for the fact that they have recently been quoted by a scientific worker, I should simply have ignored them, as I should the names ignorantly given in a story-book. Not only was the name *T. biformis* proposed in 1887 for a butterfly which Mr. Pryer believed to have several names already, but it was given as the name of two species which Mr. Pryer believed he had bred (and which a friend of his was satisfied he had not bred) from one another. Lastly, the name *T. biformis* was given in ignorance of the fact that it had already been employed in the same genus about three years and a half previously.

With regard to his *T. multifrons*, subsequently altered without comment to *T. multiformis*, Mr. Pryer believed that it included no less than ten forms, all of which he declared that he had bred from eggs laid by *T. mandarina*, although most of them never were seen in Japan, and one, at any rate, is a well-known West-African species. Subsequently Pryer extended the species to include what he called *T. læta* (meaning *T. subservens*), the wet and dry forms of which he probably regarded as *T. læta* and *betheseba*, or *T. læta* and *Jageri*, according to fancy.

When it is remembered that the *T. læta* group is characterized by entirely different male sexual marks from the *T. hecabe* group, the fact that Pryer believed he had bred one from the other invalidates the whole of his breeding experiments, proving them to have been far more careless than the positive assertions of this collector would fain constrain us to believe them.

54. *Terias indecisa*, sp. n.

♂. Gamboge-yellow; the primaries having the base blackish, the costal margin very narrowly grey, the apex and a narrow external border dark brown, trisinuated internally as in *T. gradiens*, with a slight widening at external angle, but without a trace of the internal border characteristic of the *T. rahel* group; secondaries with a dentate sinuate external border, a little broader than in *T. tilaha* and more diffused towards the anal angle: wings below slightly paler than above, with the characteristic markings of the *T. hecabe* group (wet-season) represented by brown scales and not strongly defined.

Expanse of wings 45 millim.

Batchian (*Wallace*).

This seems to be a link between the *T. hecabe* and *T. rahel* groups; its upper-surface pattern is characteristic of an intermediate or dry-season form, but that of the under surface proves it to be a wet-season form. This insect is so very distinct from any other described form that, although slightly discoloured with age, I am constrained to regard it as new to science.

T. rahel group.

The inner border of the primaries and sometimes the abdominal border of the secondaries more or less broadly bordered with deep brown; in some species these and the ordinary borders are so much extended as to occupy the greater portion of the upper surface, leaving only a patch of yellow on each wing, whilst in the females even these patches are sometimes irrorated with brown.

55. *Terias sinensis*.

Terias sinensis, Lucas, Rev. et Mag. de Zool. 1852, p. 429.

"China" (*Lucas*); Sulu Archipelago. ♂, B. M.

Our single example agrees well with the description. It approaches very near to the type of *T. gradiens* from Borneo, but differs in its slightly longer wings and narrower borders. It is a wet-season form.

56. *Terias gradiens*.

Terias gradiens, Butler, Ann. & Mag. Nat. Hist. ser. 5, vol. xvii. p. 223, pl. v. fig. 9 (1886).

Borneo, Sandakan.

Our male from Sandakan has the inner border of the

primaries more equal in width than in the type. The wet-season form only is known.

57. *Terias tilaha*.

♀. *Terias tilaha*, Horsfield, Cat. Lep. E. I. C. p. 136 (1829).

Java and Borneo.

Our ten examples are quite uniform in character and belong to an intermediate-season phase. The greater size, much broader apical border of primaries, the more elongated sinus in the border on the lower median interspace, and the extension of the inner border so as to impinge upon the discoidal cell at its base render it next to impossible that this can be the intermediate form of the preceding species, for we know that the change from a wet- to a dry-season character in this genus is usually accompanied by a decrease in the dark borders of the upper surface, and never by an increase in their width. When any change in size takes place, it tends towards diminution of expanse in the dry season.

58. *Terias Nicevillei*, sp. n.

I believe this to be the *T. tilaha* of De Nicéville; it is the smallest species of the group; it differs in pattern from *T. tilaha* in the slightly more regular inner oblique edging to the apical border of the primaries, the slightly narrower outer border of the male secondaries and the broader border to those of the female; the latter sex is also much deeper in colour than in *T. tilaha*, being nearly as bright a yellow as the male; the under surface is similar to that of *T. tilaha*.

Expanse of wings 38 millim.

N.E. Sumatra (from Capt. E. Y. Watson's collection).

59. *Terias rahel*.

Papilio rahel, Fabricius, Mant. Ins. ii. p. 22 (1787).

Borneo.

This is the Bornean representative of *T. tondana*, from which it differs in having the pattern of the primaries more nearly like that of *T. tilaha* and the pattern of the secondaries nearly alike in both sexes; whereas the female of *T. tominia* differs widely from its male in all the wings. The abdominal border of the secondaries is less strongly marked than in *T. tominia*. This, again, is an intermediate form in the under-surface markings.

60. *Terias tominia*.

♀. *Terias tominia*, Vollenhoven, Mon. Pier. p. 66, pl. vii. fig. 4 (1865).
 ♂ ♀. *Terias tondana*, Felder, Reise der Nov., Lep. ii. p. 214, pl. xxvi.
 figs. 1, 2 (1865).

Menado, Minahassa. B. M.

A wet-season form.

In the Berl. ent. Zeitschr. vol. xlii. p. 8 (1897), Herr Frühstorffer indicates the existence of a new species allied to *T. tominia* from Lombock; for this he proposes the name of *T. lombokiana*.

61. *Terias talissa*.

♀. *Terias talissa*, Westwood, Trans. Ent. Soc. 1888, p. 469, pl. xii.
 figs. 1, 1 a.

Celebes, Minahassa. B. M.

The female (of which we have both wet and intermediate forms) differs chiefly from that sex of *T. tondana* in the narrower and more smoky-yellow belts on the wings; the male, however, is widely different, the yellow area on the primaries being reduced to a broad oblique belt and that of the secondaries bounded behind by the median vein. Considering the constancy of the species in this group, we have at present no grounds for supposing that *T. tominia* alone should vary to this extraordinary extent; therefore, in spite of the general similarity of the females and the fact that both types appear to occur in the same islands, they must, for the present at any rate, be regarded as different species.

62. *Terias celebensis*.

Terias celebensis, Wallace, Trans. Ent. Soc. ser. 3, vol. iv. p. 327, pl. vi.
 fig. 1 (1867).

Tondano, Macassar, Sula Islands.

Wallace gives the locality of his male as "Menado," but the only male from the Wallacean collection in Hewitson's cabinet is labelled "Tond." The female from the Sula Islands differs from that obtained at Macassar in having the outer half of the primaries black; it would be interesting to see whether this difference was constant. The male would be best described as having the primaries above like those of *T. sari* and the secondaries like those of *T. tominia*. All the specimens have an intermediate season character of under surface.

63. *Terias alitha*.

Terias alitha, Felder, Wien. ent. Monatschr. vi. p. 289 (1862).

Terias invida, Butler, Ann. & Mag. Nat. Hist. ser. 5, vol. xi. p. 418 (1883).

Philippines, Sula Islands.

I believe *T. alitha* to be the wet-season form, though the female shows an intermediate character of under surface, and *T. invida* the dry-season form, although the male does not differ on the under surface from that of the wet season, and is only separable by the reduced width of the black borders above. A very broad-bordered form occurs, of which we have six examples from Samboangan and Davao, which may possibly be distinct, as well as a pair similar to the last but with the yellow area of the primaries abbreviated. I dare not venture, without proof of their distinctness, to name these forms, all of which, if distinct, should have been named by Mr. Semper in his Butterfly Fauna of the Philippines ('Reisen im Archipel der Philippinen,' Band v.).

64. *Terias Lorquini*.

Terias Lorquini, Felder, Reise der Nov., Lep. ii. p. 209 (1865).

Macassar, Celebes.

A wet-season form.

65. *Terias zita*.

♂. *Terias zita*, Felder, Reise der Nov., Lep. ii. p. 210 (1865).

♀. *Terias zama*, Felder, l. c.

Celebes, Ternate.

The males in the Museum have a wet- and the female a dry-season character of under surface; excepting in colour they are alike in the pattern of the upper surface.

66. *Terias eumide*.

Terias eumide, Felder, Reise der Nov., Lep. ii. p. 214 (1865).

Celebes, Batchian, Amboyna.

We have seasonal types of this species; but in the *T. rahel* group generally there is something undecided about the various phases of the species, which makes one doubt whether the species of this group ever exhibit well-defined seasonal forms such as exist in all the other groups of the genus; possibly they may be in a transitional stage towards extinction, for I believe that they have not been developed by changes of temperature, but have simply been adapted to them, inasmuch as

they are often all well-marked and emerge simultaneously in countries where practically no wet-season exists; but, on the other hand, in countries where the weather is more or less moist throughout the year the dry forms are either wholly absent or are extremely rare (probably only existing as reversional sports).

T. amplexa group.

In this group the outer borders are quite regular—that is to say, not widening towards the apex of the primaries, as in the extreme dry phases of the *T. hecabe* group.

67. *Terias amplexa*.

Terias amplexa, Butler, P. Z. S. 1887, p. 523 (with cut).

Christmas Island.

Our males are all of the wet-season type, and our single female of the dry-season, in the pattern of the under surface.

X.—*A Revision of the Linnean Type Specimens of Scorpions and Pedipalps in the Zoological Museum of the Royal University at Upsala.* By Dr. EINAR LÖNNBERG.

FROM the time of Linnæus three Scorpions and two Pedipalps have been preserved in the Zoological Museum at Upsala. They were all five mounted on pins by Thunberg, and are provided with his handwritten labels, which not only give the specific name, but also define the "collection" to which they belonged. It is consequently easy to find the names in the catalogues written by Thunberg. The first scorpion among these is labelled "*afer*, Mus. Ad. Fr.," which means that it belonged to the collection which the then Crown Prince Adolph Fredrik presented to the University in 1745. This collection was afterwards described by Linnæus in the '*Dissertatio Academica*,' which was defended by L. Balk, 31st May, 1746, in a work entitled '*Museum Adolpho-Fridericianum*'*, and reprinted in '*Amœnitates Academicæ*,' t. i. no. xi. pp. 277–326, under the title '*Museum Principis*.' Here we also find the scorpion as No. 61 "*Scorpio pectinum denticulis XIII.*" The specimen in question is thus a type, or one of the types, of the "*Scorpio afer*," which in Syst. Nat. ed. x. (1758) p. 624, and ed. xii. (1767) p. 1038, as well

* This must not be confounded with the '*Museum Adolpho Friderici Regis*,' printed in Stockholm, 1754.